

CLAIMS

What is Claimed is:

- 1 1. An alignment device comprising:
 - 2 a. a first transmitter and a first receiver for transmitting positioning signals from a
3 positioning object and for receiving alignment signals from a target object,
4 respectively, when the positioning object and the target object are aligned;
 - 5 b. a second transmitter and a second receiver for transmitting the alignment signals
6 and for receiving the positioning signals; and
 - 7 c. an indicator for indicating when the positioning object and the target object are
8 aligned.
- 1 2. The alignment device of claim 1, wherein the first transmitter is a laser for generating
2 laser light positioning signals and the second receiver is a photo-sensor for detecting the
3 laser light positioning signals.
- 1 3. The alignment device of claim 2, further comprising a first optical configuration for
2 projecting the laser light into an elongated laser beam.
- 1 4. The alignment device of claim 3, further comprising a second optical configuration for
2 filtering background light from the second receiver.
- 1 5. The alignment device of claim 1, wherein the second transmitter is a radio-frequency
2 generator for generating radio alignment signals and the first receiver is a radio-frequency
3 receiver for detecting the radio frequency alignment signals.
- 1 6. The alignment device of claim 1, wherein the indicator comprises a display element.
- 1 7. The alignment device of claim 6, wherein the display element is configured to generate
2 light.
- 1 8. The alignment device of claim 1, wherein the first transmitter and the first receiver are

2 configured to detachably couple to the positioning object.

1 9. The alignment device of claim 1, wherein the second transmitter and the second receiver
2 are configured to be removably positioned near the target object.

1 10. A system for tracking a trajectory of an object relative to a target area, the system
2 comprising:

- 3 a. means for generating positioning signals from the object in a direction
- 4 corresponding to the trajectory of the object;
- 5 b. means for detecting the positioning signals when the trajectory of the object is
- 6 laterally aligned with the target area;
- 7 d. means for generating the alignment signals when the positioning signals are
- 8 detected; and
- 9 c. means for detecting the alignment signals.

1 11. The system of claim 10, wherein the means for generating positioning signals comprises a
2 laser device.

1 12. The system of claim 11, wherein the laser device is configured to emit an elongated laser
2 beam.

1 13. The system of claim 12, wherein the means for detecting the positioning signals is
2 configured to detect the axial alignment of the object.

1 14. The system of claim 10, wherein the means for detecting the positioning signals
2 comprises a photo-detector device.

1 15. The system of claim 14, wherein the photo-detector device is configured to selectively
2 detect laser light.

1 16. The system of claim 10, wherein the means for generating the alignment signals
2 comprises a radio-frequency transmitter.

- 3 17. The system of claim 16, wherein the means for detecting the alignment signals comprises
4 a radio frequency receiver.
- 1 18. The system of claim 10, further comprising means to communicate when the trajectory of
2 the object is laterally aligned with the target.
- 1 19. The system of claim 18, wherein the means to communicate comprises a light display
2 element.
- 1 20. A positioning and alignment system comprising:
2 a. a target unit for positioning near a target; and
3 b. a positioning unit for coupling to an object, wherein the positioning unit
4 communicates a positioning signal to the target unit and the target unit
5 communicates an alignment signal to the positioning unit when the positioning
6 unit and the target unit are in alignment.
- 1 21. The positioning and alignment system of claim 20, wherein the positioning unit is
2 configured to illuminate light when the target unit communicates the alignment signal to
3 the positioning unit.
- 1 22. The positioning and alignment system of claim 20, wherein the positioning unit
2 comprises an optical transmitter for communicating with the target unit.
- 1 23. The positioning and alignment system of claim 20, wherein the target unit comprises a
2 radio transmitter for communicating with the positioning unit.
- 1 24. The positioning and alignment system of claim 20, wherein the positioning unit is
2 configured to couple to a golfing putter and the target unit is configured to be positioned
3 near a golf ball target, wherein the positioning and alignment system monitors positioning
4 and alignment of a golfer's putting trajectory.